

Freshwater Flow Charts—1995

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- Explanation of Charts Showing Freshwater Flow in 1995
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Explanation of Charts Showing Estimated Freshwater Flow in 1995

Source of Data

The water quantities shown in these charts were taken from a U.S. Geological Survey publication, and the references below are all to that publication:

Wayne B. Solley, Robert R. Pierce, and Howard A. Perlman. *Estimated Use of Water in the United States in 1995*. Circular 1200. GeoRef ID 1998-064214. Reston, VA: U.S. Geological Survey, 1998. This publication is available on the Web at <http://water.usgs.gov/pubs/circ/>.

These charts show freshwater flow only. However, information about saline water is included in many of the tables in the cited source. The water-use categories shown in the chart are for “offstream use” only. According to the USGS, instream use—such as for hydroelectric power generation—does not divert or withdraw water from the surface or ground-water sources (p. 5).

Data is given in million gallons per day (Mgal/day.)

Definition of Terms

The categories shown on these charts are defined by USGS in a glossary (pp. viii–ix). A few of these definitions are briefly quoted here:

- **Consumed or evaporated:** “that part of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment.”
- **Freshwater:** “water that contains less than 1,000 parts per million of dissolved solids.”
- **Ground water:** “subsurface water.”
- **Public supply:** “water withdrawn by public and private suppliers and delivered to users.”
- **Return flow:** “water that reaches a ground- or surface-water source after release from point of use and thus becomes available for further use.”
- **Surface water:** “an open body of water, such as a stream or a lake.”

- ***Thermoelectric power water use:*** “water used in the process of generation of thermal electric power.”

The United States Chart

Data for the chart showing U.S. freshwater flow came primarily from Figure 7, “Source, use, and disposition of freshwater in the United States, 1995,” page 19.

The California Chart

Data for the California chart came from Table 2 (p. 9); Table 4 (p. 11), Table 6 (p. 13), Table 8 (p. 15), Table 10 (p. 23), Table 12 (p. 27), Table 14 (p. 31), Table 16 (p. 35), Table 18 (p. 39), Table 20 (p. 43), Table 22 (p. 47), Table 24 (p. 51), and Table 26 (p. 53).

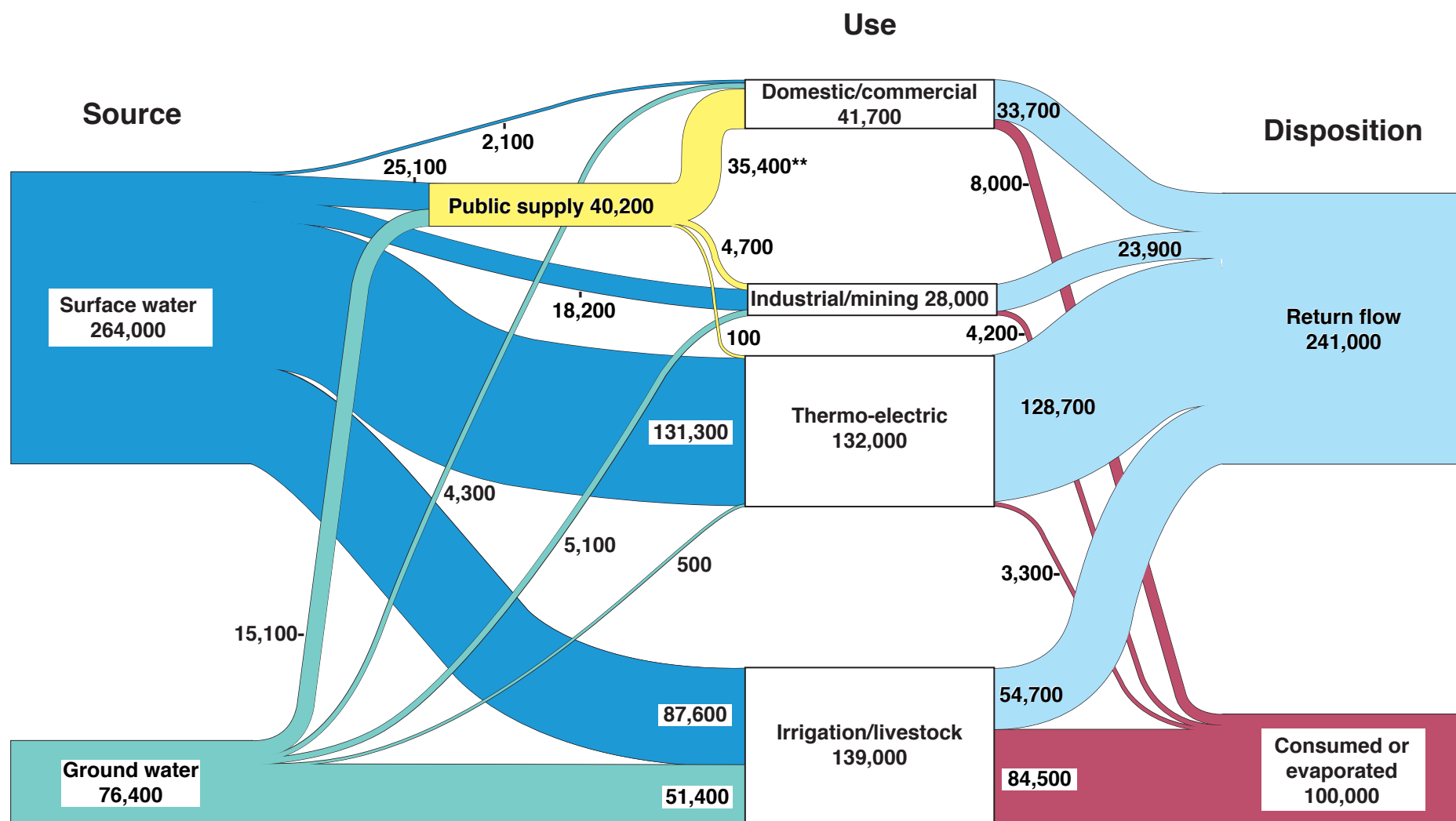
In California, freshwater supplied only a small proportion (211 Mgal/day) of the water used for thermoelectric power generation in 1995; a much greater proportion (9,450 Mgal/day) was supplied by saline water (Table 24, p. 51). Roughly half (4,924 Mgal/day) of thermoelectric power water use in California was for fossil-fuel plants; and half (4,710 Mgal/day) was for nuclear power plants (Table 26, p. 53.)

About 82% of California’s freshwater use in 1995 was for irrigation and livestock purposes, a total of 29,354 Mgal/day. Of that total, about 98%—or 28,900 Mgal/day—was for irrigation (Table 16, p. 35).

The New Mexico Chart

Data for the New Mexico chart came from Table 2 (p. 9); Table 4 (p. 11), Table 6 (p. 13), Table 8 (p. 15), Table 10 (p. 23), Table 12 (p. 27), Table 14 (p. 31), Table 16 (p. 35), Table 18 (p. 39), Table 20 (p. 43), Table 22 (p. 47), Table 24 (p. 51), and Table 26 (p. 53).

Estimated U.S. Freshwater Flow* in 1995: ~341,000 Mgal/day



Source: U.S. Geological Survey, Publication 1998-064214.

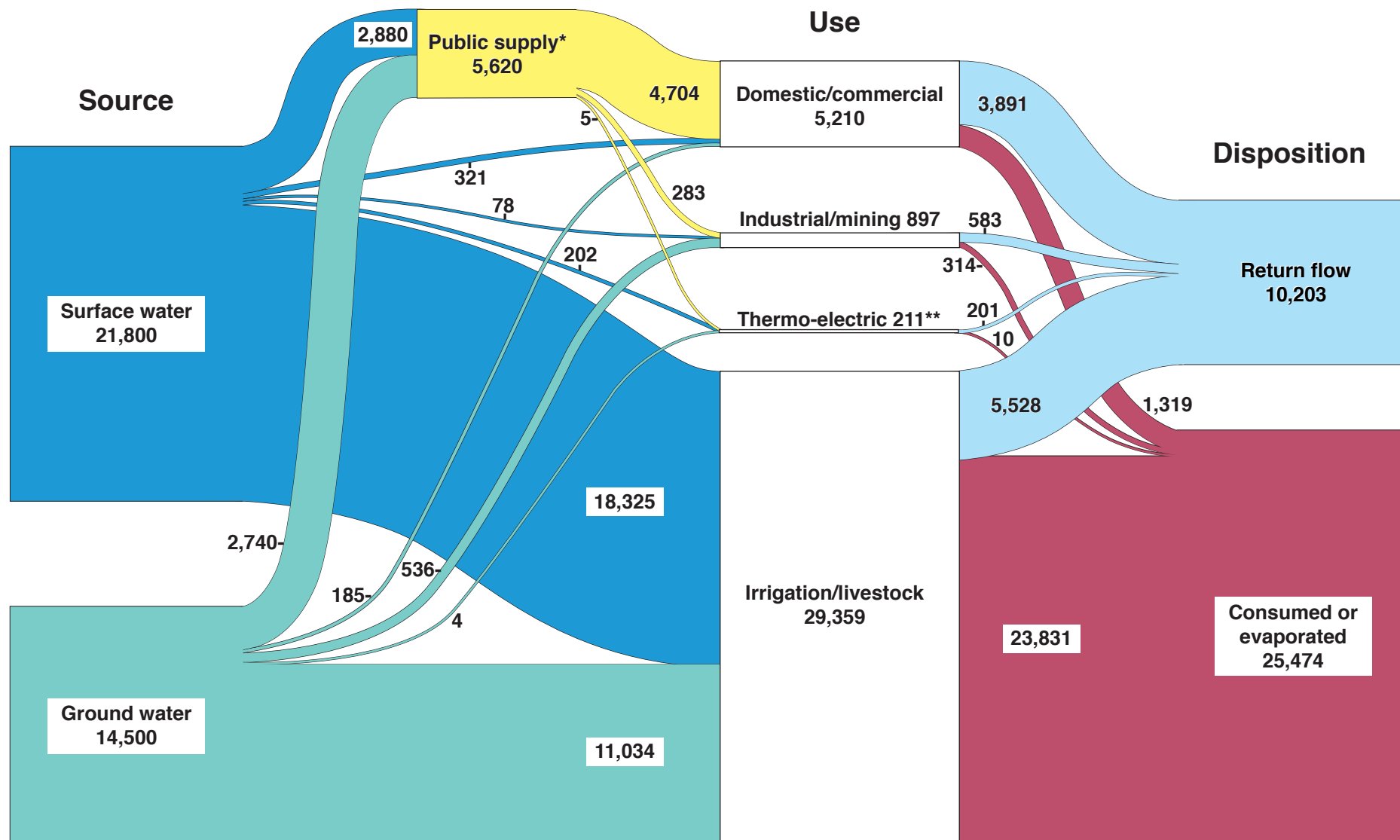
*In addition, 60,800 Mgal/day of saline water was withdrawn, primarily for thermo-electric use.

**Includes public use and losses of 5,980 Mgal/day.

Note: Numbers shown may not add to totals because of independent rounding.

Lawrence Livermore National Laboratory, April 2003

Estimated California Freshwater Flow in 1995: 36,000 Mgal/day



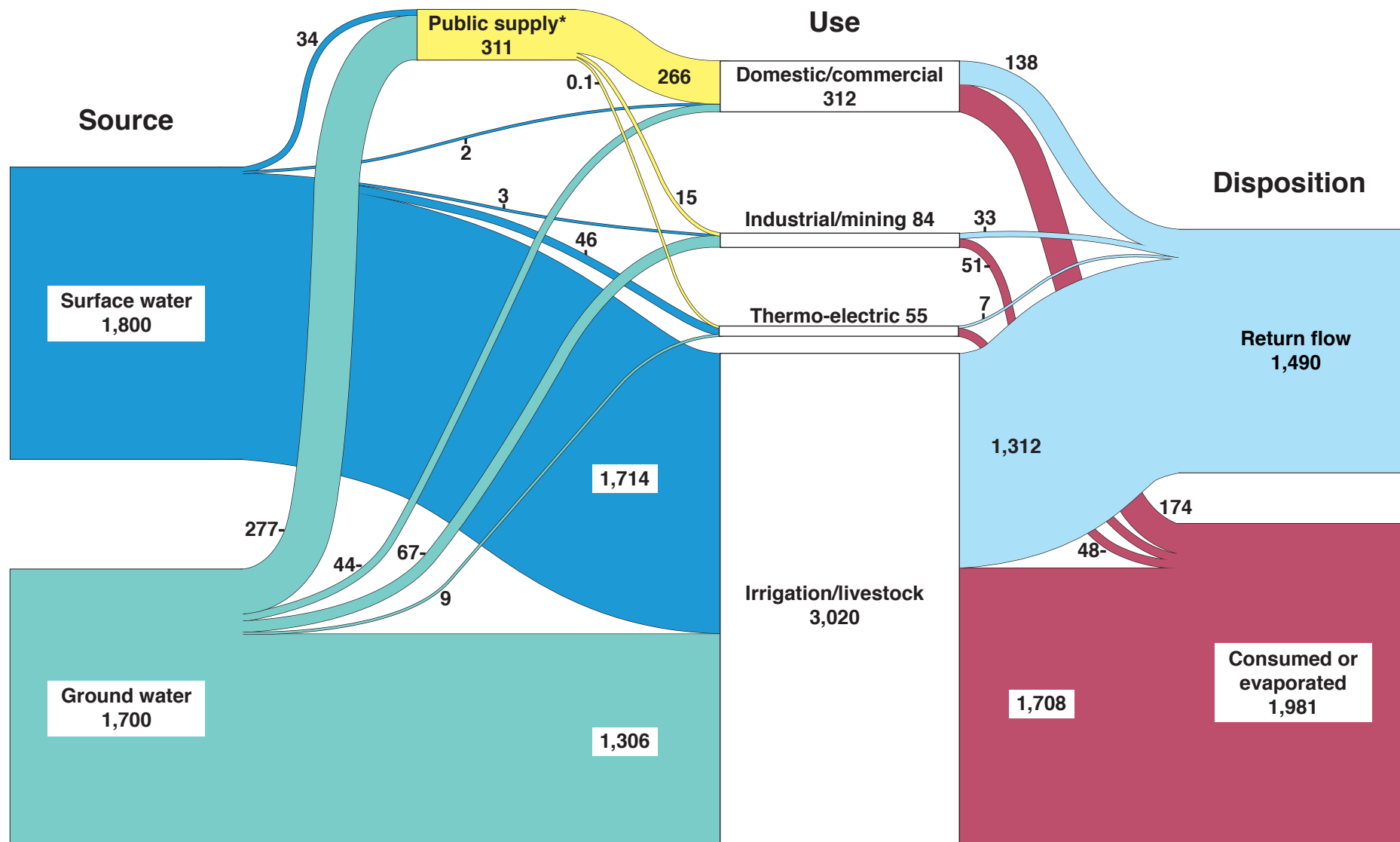
Source: U.S. Geological Survey, Publication 1998-064214.

*Difference between input and output of ~629 Mgal/day for public use and losses.

**In addition, 9,430 Mgal/day of saline water were used for thermoelectric purposes.

Lawrence Livermore National Laboratory, April 2003

Estimated New Mexico Freshwater Flow in 1995: ~3,500 Mgal/day



Source: U.S. Geological Survey, Publication 1998-064214.

*Difference between input and output of ~30 Mgal/day for public use and losses.

Lawrence Livermore National Laboratory, August 2003

Web Locations and Credits

The information depicted in these charts was obtained from a U.S. Geological Survey publication: Wayne B. Solley, Robert R. Pierce, and Howard A. Perlman. *Estimated Use of Water in the United States in 1995*. Circular 1200. GeoRef ID 1998-064212. Reston, VA: U.S. Geological Survey, 1998. This publication is available on the Web at <http://water.usgs.gov/pubs/circ/> .

Since the 1970s, Lawrence Livermore National Laboratory has prepared flow charts and reports on energy consumption in the United States and California. The most recent of these are on the Web at <http://eed.llnl.gov/flow/> .

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